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What Every Neophyte Knowledge Surfer Should Know

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Purpose

This document is designed to introduce both faculty and students to conducting research using the vast information base available via the Internet. It is written in simple layman's language and assumes that the reader knows little about computers and the Internet. It is not designed to make the reader an expert on searching the Internet, this will come after several trial searches and each individual working out a system that works for them.

Introduction

The Internet evolved from the efforts of a group of engineers, computer Geeks, educators, and government research programs that began in the 70's, culminated in the 80's and reached implementation in the early 90's. It is by no means complete and changes on daily basis (Anyone who is a frequent "Web surfer" knows this). Internet sites come and go. A search engine or site that was best this week may be gone next week or replaced by a better option. Technology updates to the Web are being implemented on an hourly basis. The point of this is to convey to you, the reader, that YOU ARE NOT BEHIND. You do not need to be a Geek 1st Class to use the Internet. What was being done on the Internet last week is now obsolete. Current Web Browsers (programs that allow you to surf the net) are extremely user friendly and will walk you through the steps easily. Don't worry if you do not understand the mechanics of exactly how it works, (it could be magic) just use it! You don't need to understand the mechanics of the current petro-chemical combustion engine to drive a car, do you? You

What is a Web Browser?
A Web browser is nothing more than a program that allows you to drive down the info highway. There are several available but the two most popular in use today are Microsoft® Internet Explorer and Netscape®. They are programs that make it easy to surf the Web. Just like Word for Windows® and Word Perfect® are programs that allow you to do word processing and Excel® and Quattro Pro® are programs that allow you to prepare a spread sheet.

get in, put your key in the appropriate place, turn the key, start your engine, and drive away. Who cares (except automobile mechanics) how or why it works. Think of the Internet in this way. Turn on your computer, call up your Web Browser and take a cruise down the information highway. You can also drive on this highway without understanding how it works. Leave that to the computer programmers and computer engineers just as you leave your automobile repair and maintenance to the automotive mechanic and the automotive engineers.

The Internet allows you to tap into almost every university library, government archive, and information depository in the world. From ancient maps to actual photographic copies of the Dead Sea Scrolls and Civil War battlefields, it is there. Research papers, complete books, and government publications are there, free, for the reading. When properly used, it is a researcher's haven. Not only is the information readily available but it easily importable (without re-typing it) into most word processing and spread sheet programs (this includes photos).

In addition to conducting research, you can read current news. Most of the major metropolitan newspapers publish a Web version. The Washington Post, for example, can be found at www.wpost.com; The New York Times at www.nytimes.com; and if foreign news is your interest, The London Daily Telegraph at www.telegraph.co.uk. Other well-known newspapers and newsmagazines can be found by conducting a search for them.

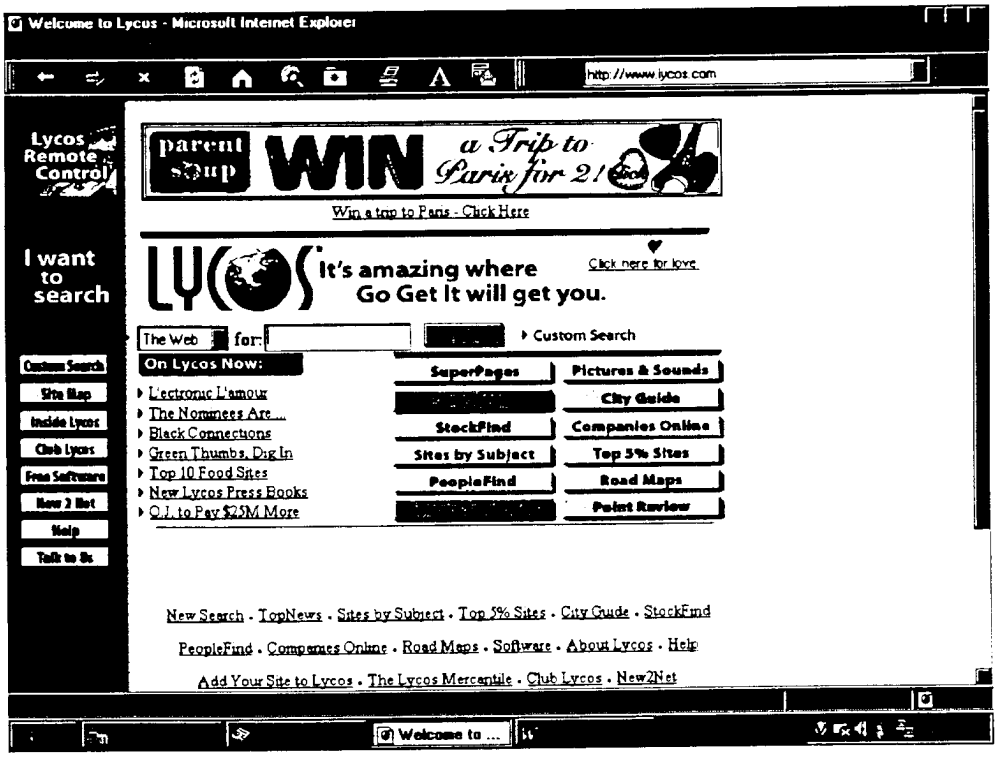
Where Do I Start?

Directories Versus Search Engines

Web Directories

Web directories, like Lycos' and Yahoo's are like card catalogs in the Library. They file everything in categories such as Sports, Entertainment, and Computers. Once you find your topic in a Web directory, you've got a handful of key sites with which to start. And that might be all you need. Most directories include brief descriptions of each site and lead you to a site's home page, but not to specific pages within a site.

The average Web directory is an easy to use, no-nonsense tool--it gets the minimum job done, and gets is done quickly. If you're looking for information on a general topic, a directory is the best place to start, especially if you have used it before. An example of the Web directory Lycos is shown below.



Clicking on any one of the blue links, (known as Hypertext), will take the user to a listing of sites that correspond to that choice or to another menu, which breaks the topic down further. This system is the same regardless of which directory is used.

Search Engines

Web directories list only a small fraction of the pages available on the World Wide Web. It is here where search engines like those found on Excite, Yahoo, and Lycos are more useful. You tell the engine what you're interested in, and it matches the Web pages that contain that information. To keep their records current, the search engines use programs called spiders or bots that follow links from page to page, recording all or part of the contents of each page as they go and stores them in a data file on the local server. In a very short time they can look at the entire World Wide Web to find any information on the topic you are looking for (remember all this is done at the speed of light). Because no human intervention is required, search engines can cover much more of the Web than directories can. You need to know how to use them and the tricks of formulating search criteria if you don't want to waste your time sifting through thousands of possibilities. Remember Sturgeon's Law, ninety percent of everything retrieved by your search isn't even worth the time it takes to download.

Ninety percent of everything is crap
Sturgeon's Law

Define Your Search

Using general terms will give you general results. With search engines, take your time and do the job right. If you give some thought to your searches, you'll get better results. Enter a handful of related words or a phrase in stead of one word. If you are looking for information on Little Round Top, don't just enter Civil War. You'll end up with hits on

anything and everything from Fort Sumpter to Appomattox. The more specific you can be, the better. Don't worry about redundancy--synonyms can help narrow the field of your search. Leave out nonessential words like prepositions and articles (of, to, and, the, and so on)--most search engines ignore them anyway. Enter instead "battle Gettysburg" or more specifically "little round top battle Gettysburg". .If a search site returns no hits or too few, your query may be too narrow--or it may use the wrong terms. Try another query with fewer words, or one with different, less specific words. If the search engine returns hundreds or thousands of hits, your query is probably too broad. If you don't find what you want in the first two or three pages of results, stop. Try again with more specific words or more restrictive query options. Don't be afraid to try different search engines. More than likely the same query on other engines will turn up completely different results. Try and keep up to date on which search engine is rated number one.

What's the best engine to use?

Over the past six months I have read many sites, news postings, and had discussions in on line chat rooms as to which search engine is the best. Like a certain body part, everyone had his or her own opinion. What follows on the next page is my opinion on which are the top ten with the first three being really interchangeable. Remember this is a **CURRENT** list, meaning that tomorrow a new site may pop up that will blow all of these away. I have used all of these and the comments reflect my own opinion.

NAME	URL ADDRESS	COMMENTS
1. Excite	www.excite.com	Easy to use, hit ratings by percentage.
2. Alta-Vista	www.alta-vista.com	Large coverage and very fast
3. Yahoo	www.yahoo.com	Large coverage, well known, easy to use
4. Lycos	www.lycos.com	Still excellent but aging
5. Hot Bot	www.hotbot.com	Excellent but not for novices
6. WebCrawler	www.Webcrawler.com	Fast, easy to use
7. WWW Library	www.w3.org/v1/	Academic Research oriented
8. Wise Wire	www.wisewire.com	Uses AI to configure to your style, difficult to use. Not for the beginner.
9. Infoseek	www.infoseek.com	Easy to use but limited hits.
10. Meta Crawler	metacrawler.cs.washington.edu:8080/	One of the first engines on the net. Still good but not as good as the above.

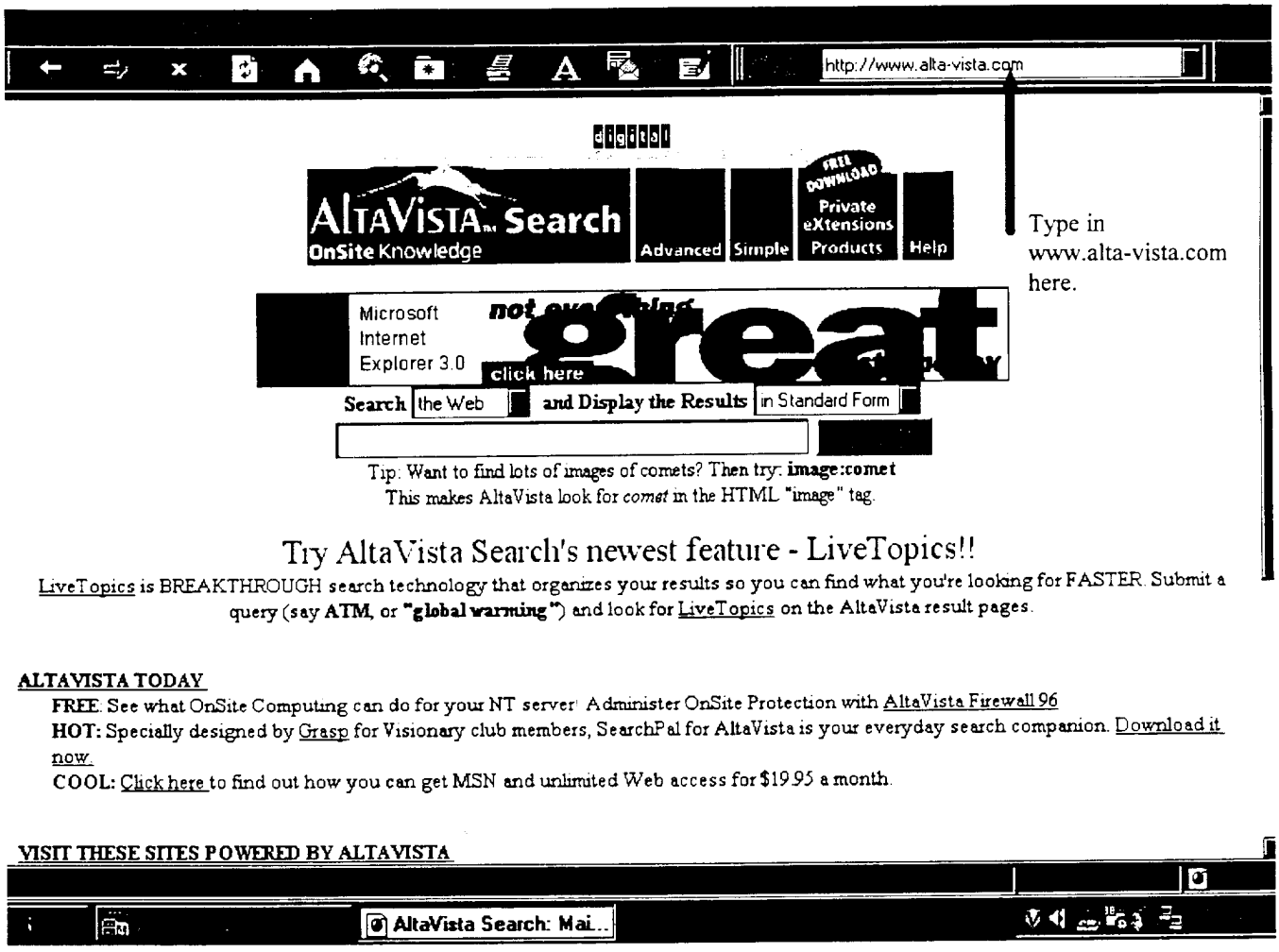
Thanks for all the background information, but can we do a search now?

OK, now you know the basics and a little of the history. Let's conduct a real search and see what we come up with. For this search we will use the Alta Vista engine. We will assume that I am doing research on cyber terrorism. The first step before I even open up my Web browser is to define my search terms. I know that if I type terrorism, I will get hits on anything from modern day Palestine to the anarchist movement at the turn of the 19th Century. If I type cyber terrorism I may get nothing. I can compromise and increase my chances of getting something that I can really use by typing "cyber computer terror". In this way I will get a hit on any site that has a cyber, computer, terrorist, terrorism flavor (note that the word terror is contained in terrorist and terrorism).

Step One

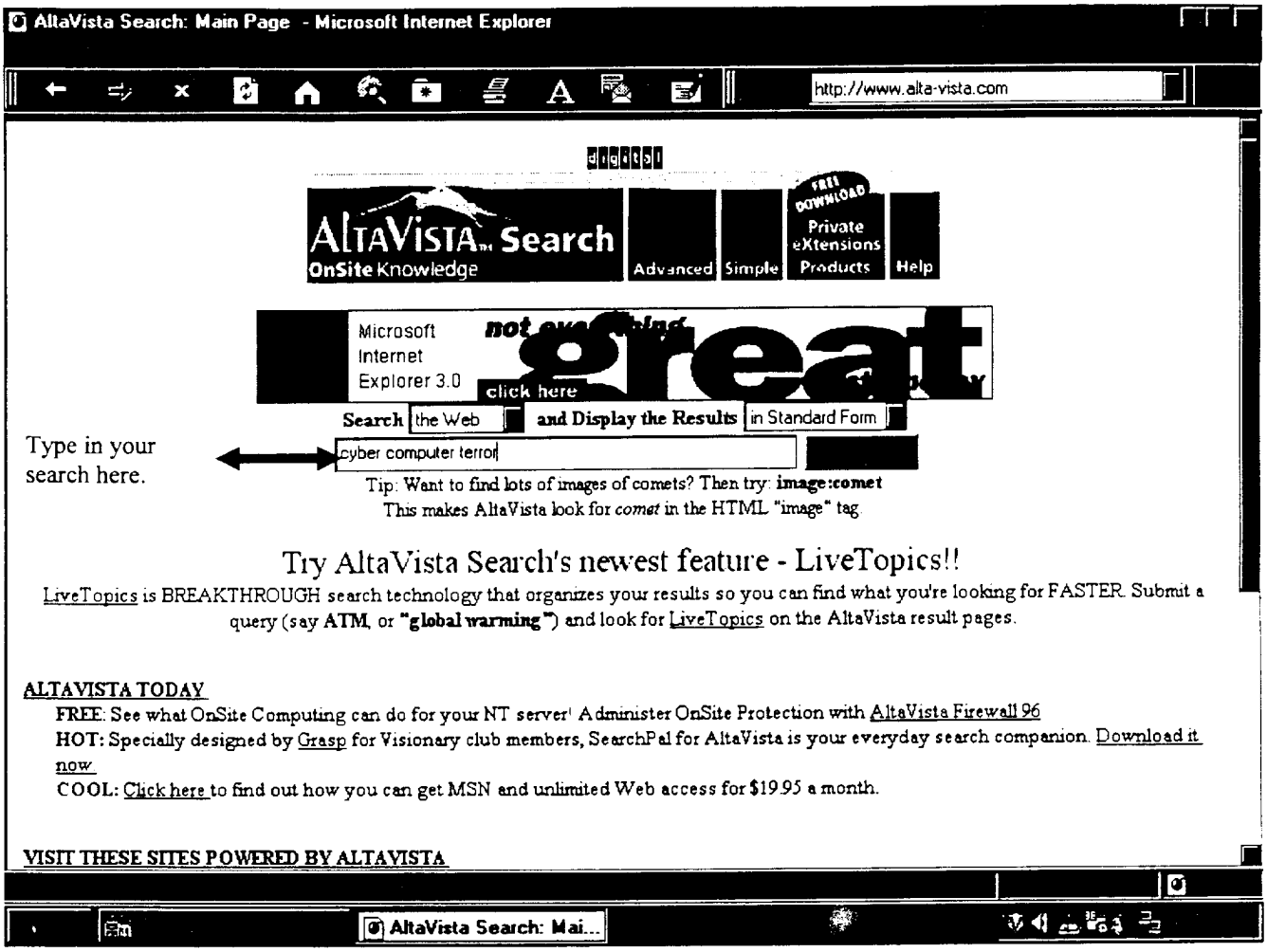
I open my browser and type in www.alta-vista.com in the go to window and hit return.

My screen now looks like this:



Step Two
I type in my search words in the search window and push the submit (other engines use

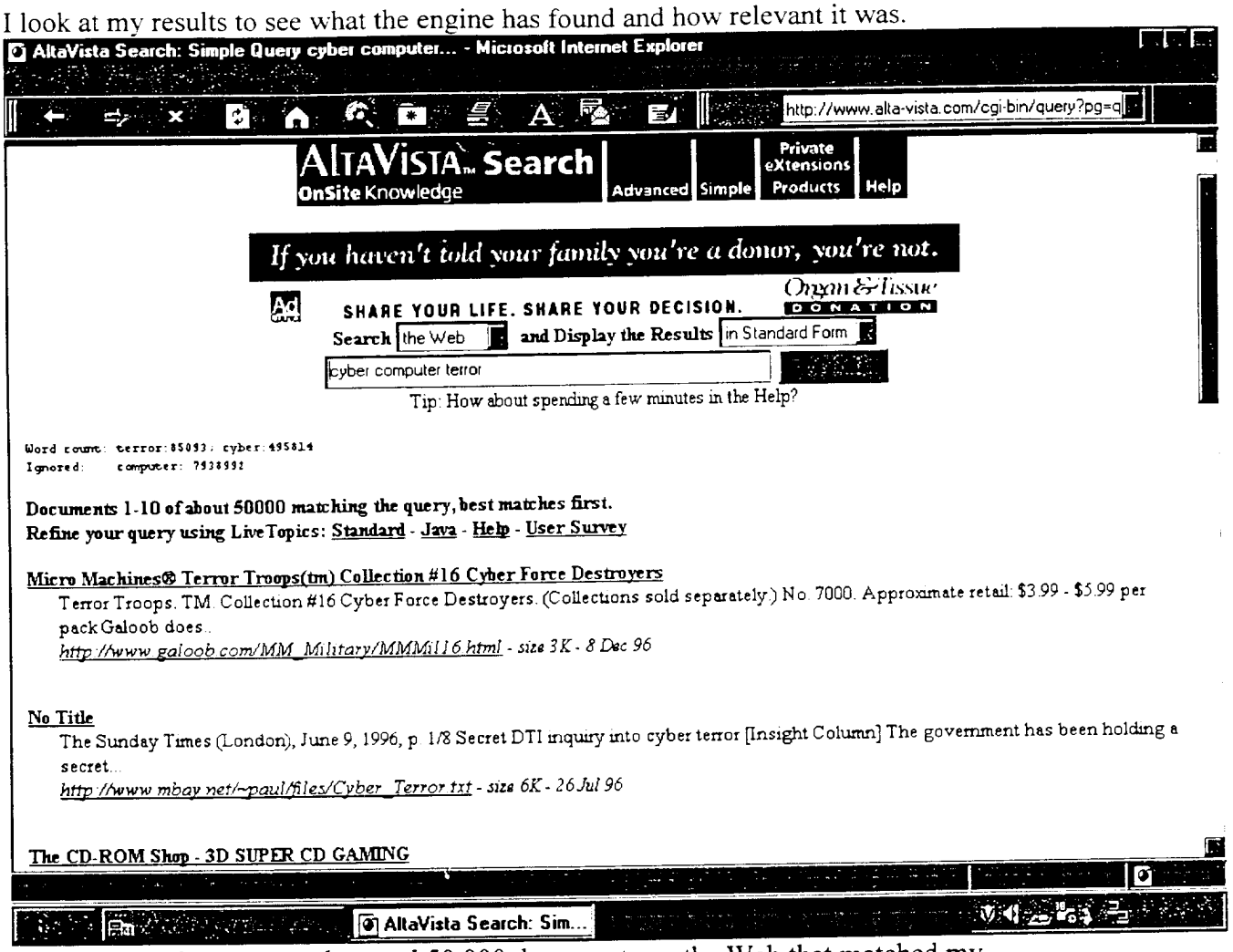
the word "search" or "find") button with my mouse key.



NEXT PAGE

Step Three

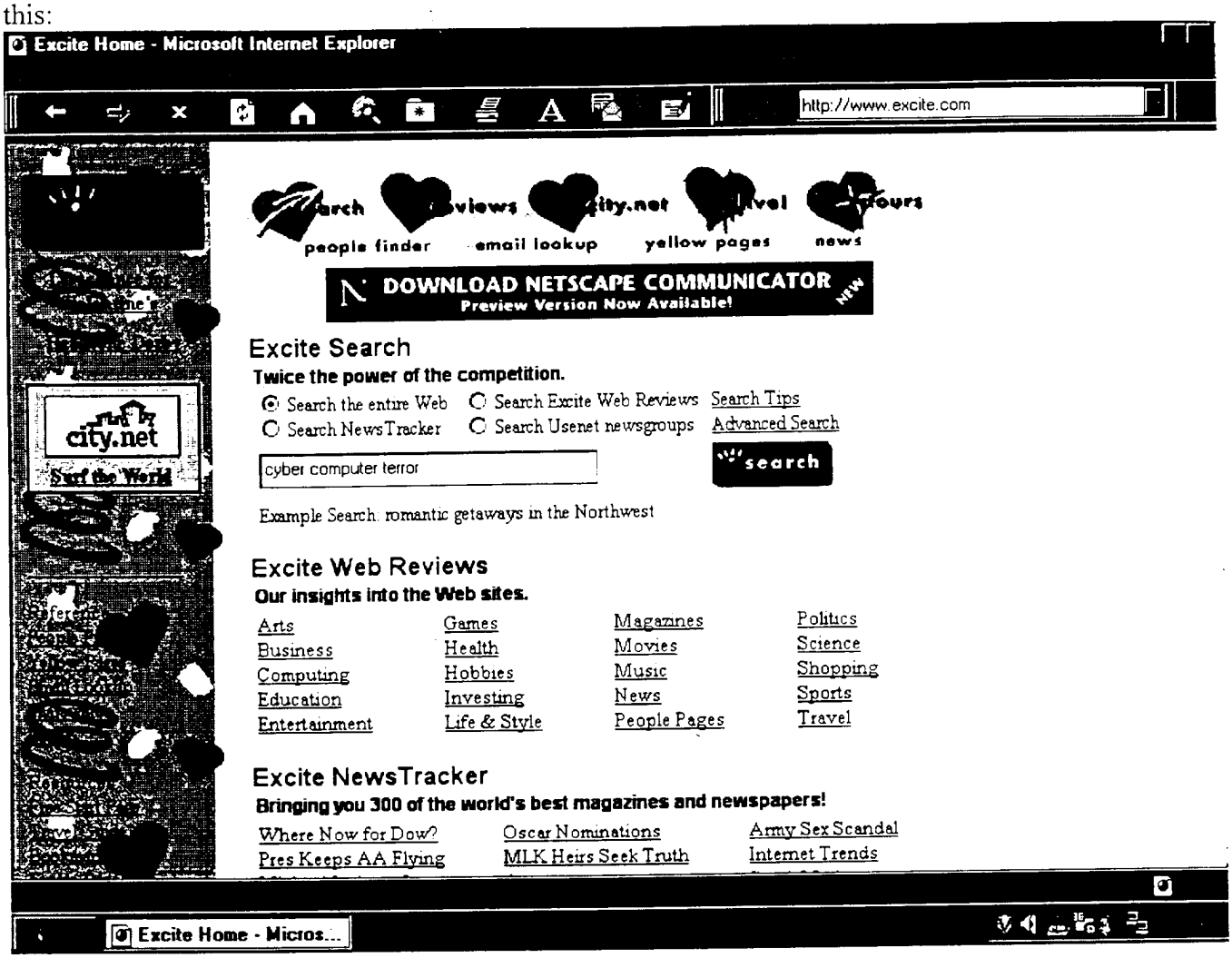
I look at my results to see what the engine has found and how relevant it was.



This tells me that my search netted 50,000 documents on the Web that matched my search criteria (talk about Sturgeon's Law). I may want to wade through the hits and see where they lead or I may want to look at narrowing my search window (just think what would have happened if I had just typed in "terrorism"). To go to one of the sites that my search found, all I need do is place my mouse arrow over the blue hyperlink that list the item and press the mouse button. That will immediately take me to the site listed and I will be able to read and or download the information. I may even consider looking at another search engine to see what happens. Let's try the same search, but use Excite.

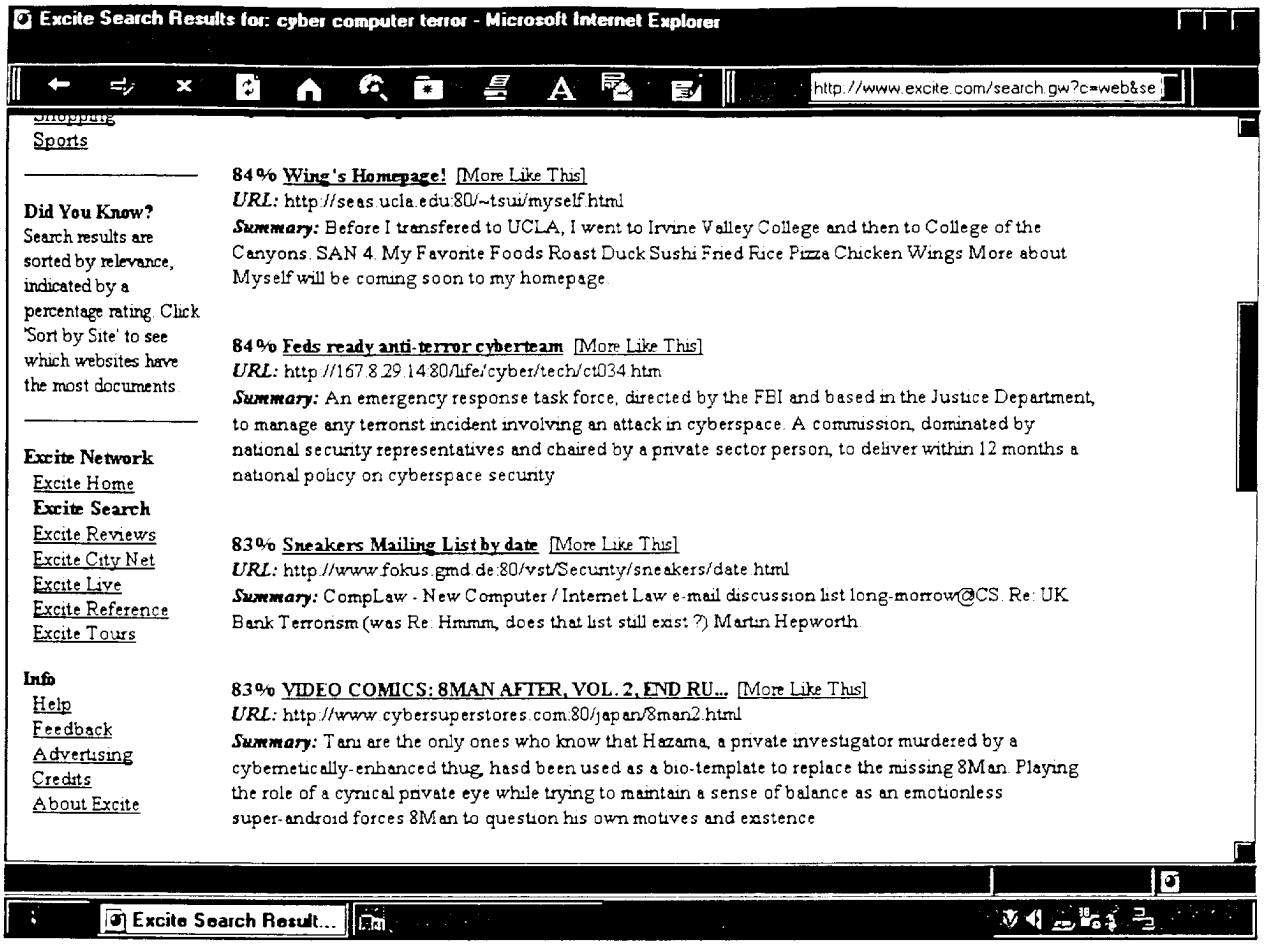
Step One

I type in www.excite.com in my go window and hit return. My screen should look like this:



Step Two

I type in the same search criteria as I did on the first search and press the "search" button with my mouse. Note that for excite the operative word is search, not submit, as in Alta-Vista. The results of this search are shown on the next page.



This is more in line with what I was looking for. The second hit "Feds ready....." is more in line with what I need to read. It will probably steer me to other cyber-terrorism articles.

I would get similar results on most search engines.

Additional Tricks of the Trade

Skip Scrolling. Okay, so you found a likely Web page--but it's about 50 screens long. Never fear--in Internet Explorer or Netscape Navigator, just hold down the Alt key and type -F and enter a word you're looking for. The browser will jump to the first appearance of that word on the current page.

Odd Characters. If you're tired of typing out Boolean operators, you can use symbols instead: & (ampersand) instead of AND, | (the pipe character) instead of OR, ! (Exclamation point) in place of NOT, and ~ (tilde) for NEAR. For example, type speed ~ racer instead of speed NEAR racer.

Looking for Photographs? AltaVista can search for text in an HTML <image> tag. The query image :comet.jpg will return any page referencing a file called 'comet.jpg' in an image tag--and, with a name like that, it's a good bet that file will be a picture of a comet.

Use Plain English. Excite is designed to handle conversational sentences well, so queries like "Where is a good Greek Restaurant in Paris, France?" or "learn how to speak Russian" can be surprisingly effective.

Find Quote Sources. To find sources for short quotations, such as, "You don't need a weather man to know which way the wind blows," just enter the quote into Excite. It's all

right if you don't get the quotation exactly right--there's a good chance that the results pages will tell you where it came from and give you the correct wording as well.

Eliminate Irrelevant Words. While Lycos doesn't support Boolean searches, you can use the minus sign (--) to refine your searches. Words with the minus sign are less likely to appear in the list of query results. For example, enter the query business -monkey if you want to find out about business, but not monkey business.

Find Whole Words. Lycos treats an entry as a substring as well as a complete word. If you enter the word bug, Lycos will search for bugs, bugger, and buggery. To limit Lycos to the exact word you entered, put a period (.) at the end of the word.

Find Specific Information. In addition to Web and Usenet searching, Infoseek offers options that let you search for company information, e-mail addresses, recent news, and Frequently Asked Question files. Just select the directory you want to search from the drop-down list on the main query page. Most search engines offer this feature. You can not only find someone's address and phone number but you can actually see a map to their house.

Keep Your Caps On. To search for proper names, capitalize them when entering your query: Paris, not paris.

Using Your New Found Knowledge

Now that you know the basics of searching the net, what is the next step? Computers were designed to make your life easier. Searching for a site, finding the information, printing it, and then re-typing it into your report is not time saving. Your computer and your Web browser will allow you to copy information directly from the screen into your word processing or presentation document. This will work with both text and photo's. The procedures for each are relatively easy and quite similar. If you are familiar with the cut and paste tools for your word processor and presentation software, you should have no trouble at all. If you are not familiar with these tools, reviewing their use may improve your skill. Following the instructions presented in the next section will talk you through both procedures. Practice will make this whole procedure much easier.

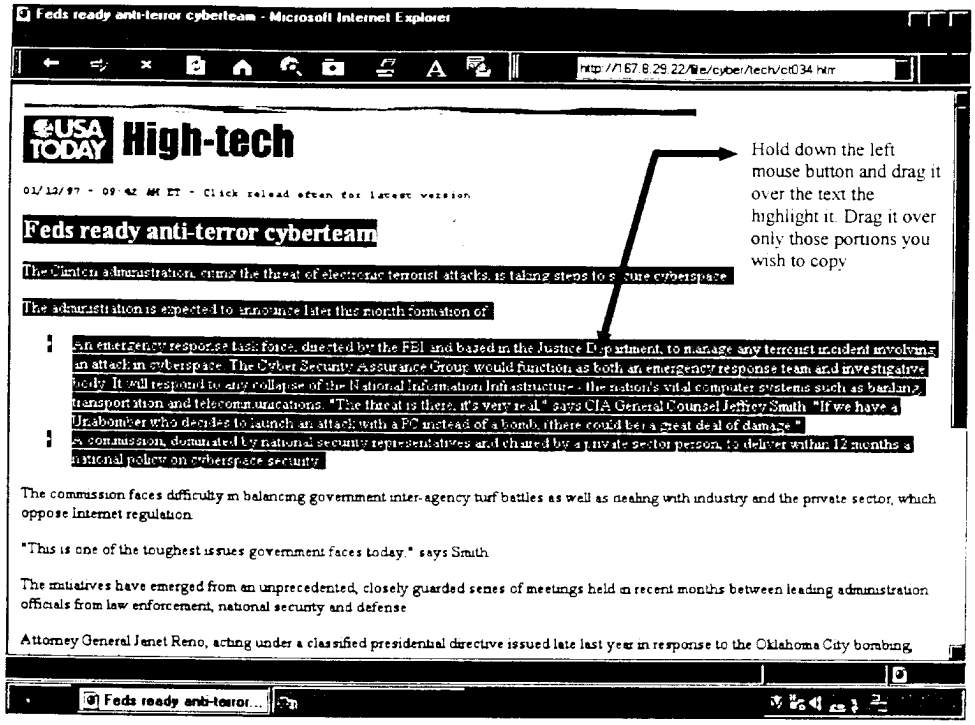
Importing Text

Let's go back to our original search. We were looking for information of cyber terrorism. One of the articles listed on our search was an article concerning the Feds setting up a counter terrorism task force. By clicking the mouse directly on the blue title, our Web browser will take us to the article.

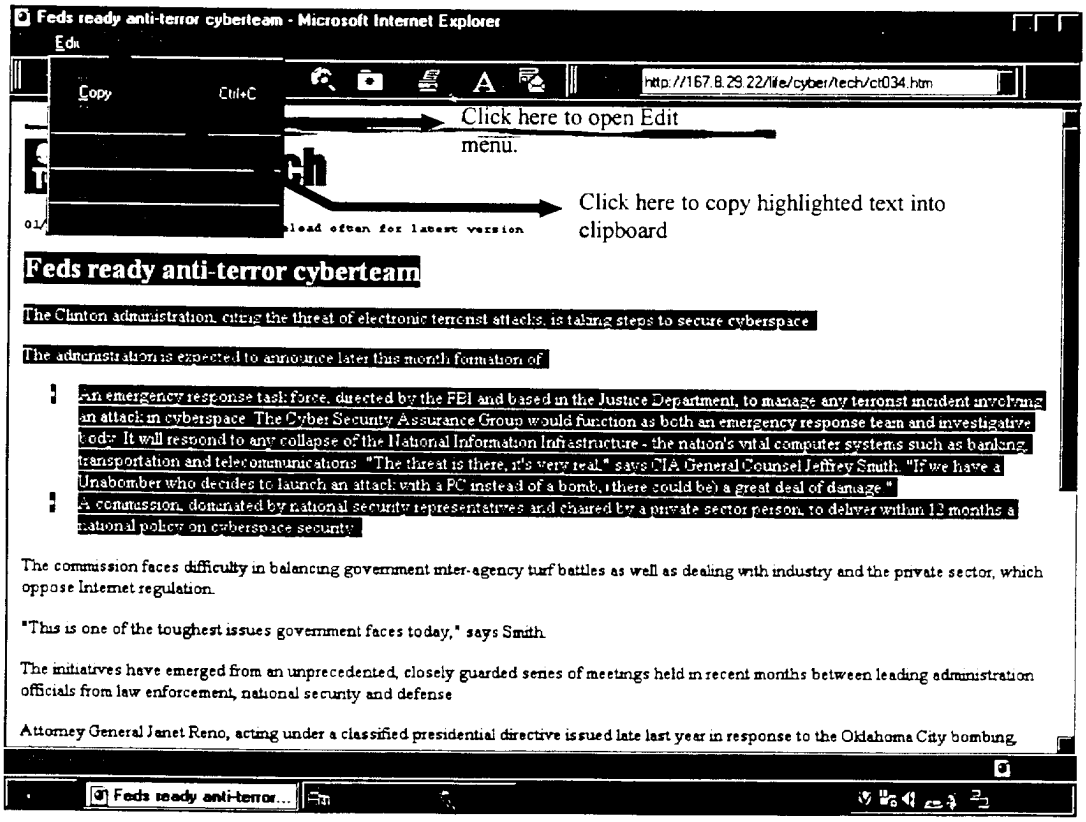
The article should appear in our browser as follows on the next page:

By reading the article, we know that it came from USA Today's 13 January 1997 issue. This information is vital when it becomes necessary to footnote or add an item to a bibliography. The date lets us know if the material is dated or obsolete. It is obvious that this type of material would look good in our paper. It could be printed and then retyped into our report or is there an easier way?

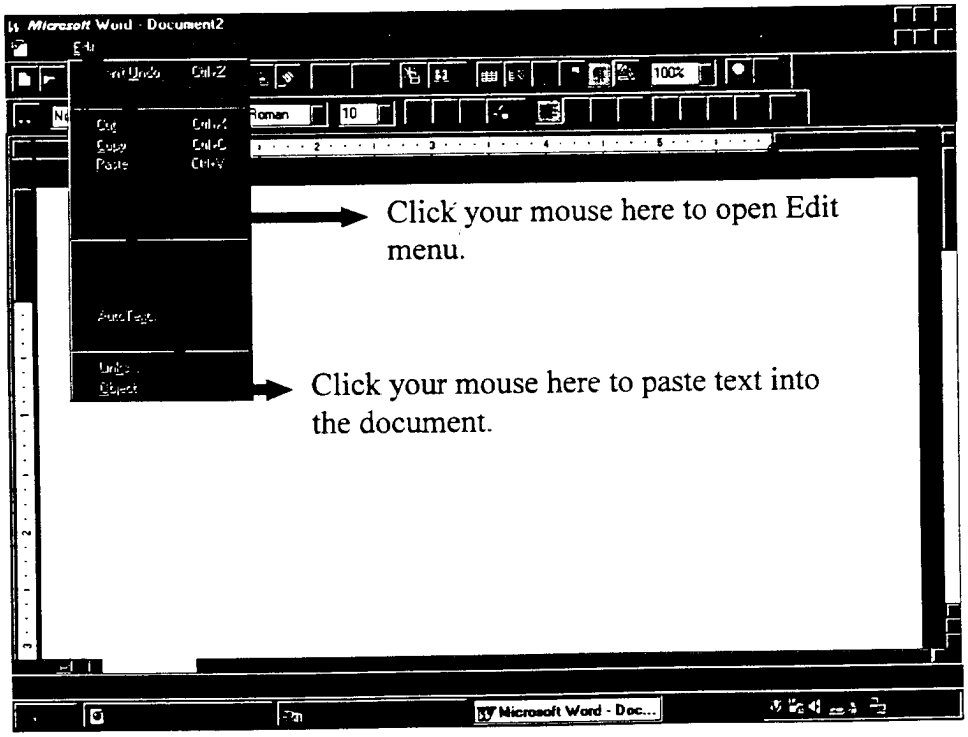
To import text directly into a word processing document: hold down the left mouse button and drag the arrow over the text. This will cause the text to become highlighted on the screen as shown on the next page.



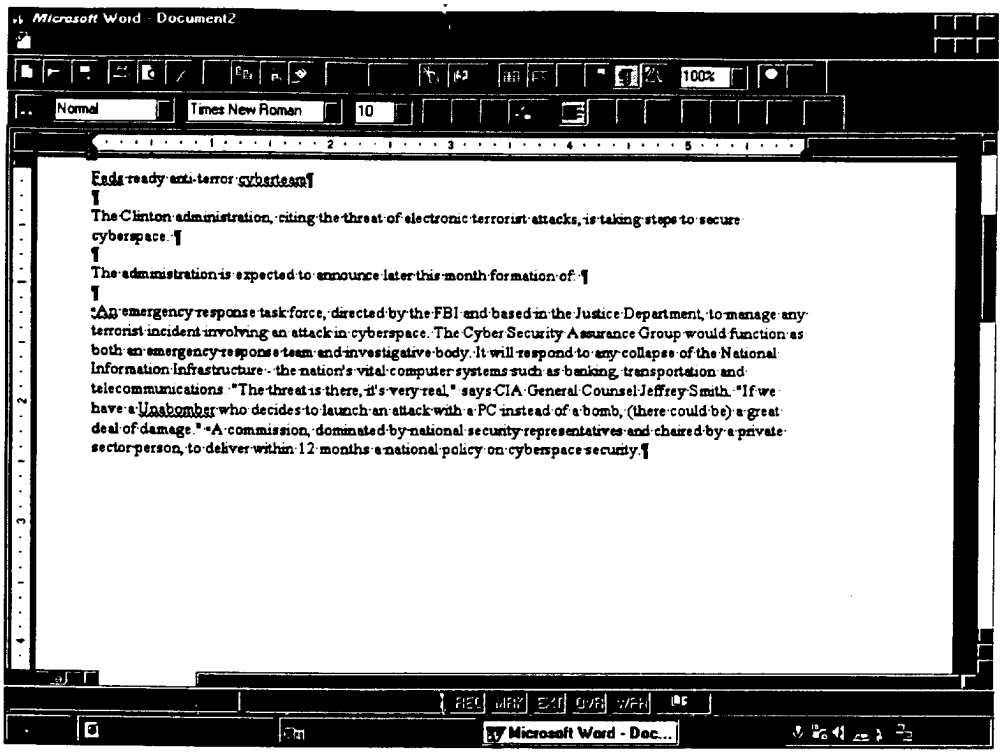
Next, open the edit menu at the top of the page by clicking on Edit.



The next step in this process is to insert the text into a Word for Windows document. It is a much easier process if you have Word open at the same time as your Web browser. You can then easily switch between the two by holding down the Alt button and depressing the Tab key. You can use this trick with any Windows programs that you have open simultaneously. When you hold down the Alt key and depress the Tab key, a little window will appear in the middle of you screen that shows the name of an application other than the one you are currently in. If you release the Alt key and the Tab key, Windows will automatically switch to that program. If you continue to hold down the Alt key while depressing and releasing the Tab key, Windows will cycle every program you have open through the little window. When the program you want to switch to appears in the window, release both the Alt and Tab key and Windows with switch to that program. Once you have switched to Word, click your mouse in the document where you want to insert the text. Then click your mouse on "Edit" at the top of the



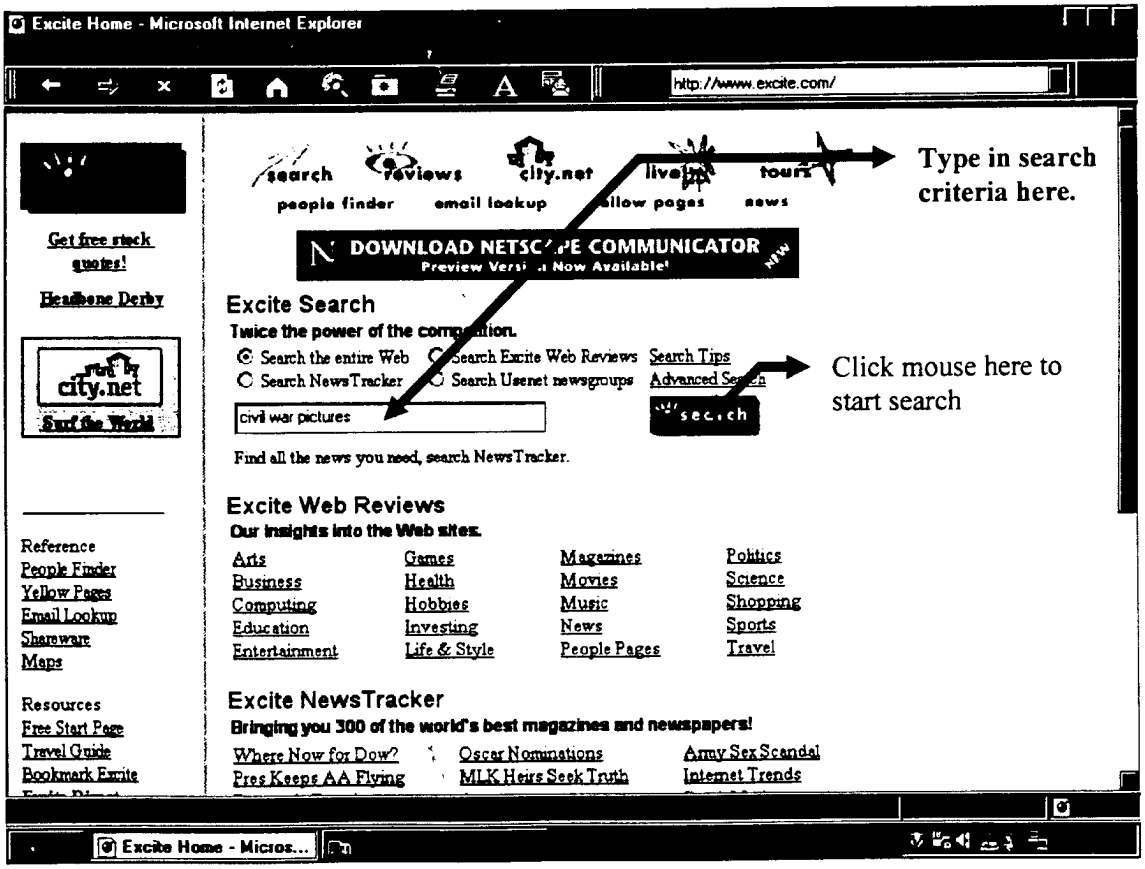
page. Now, click your mouse on Paste to import the text into your document.

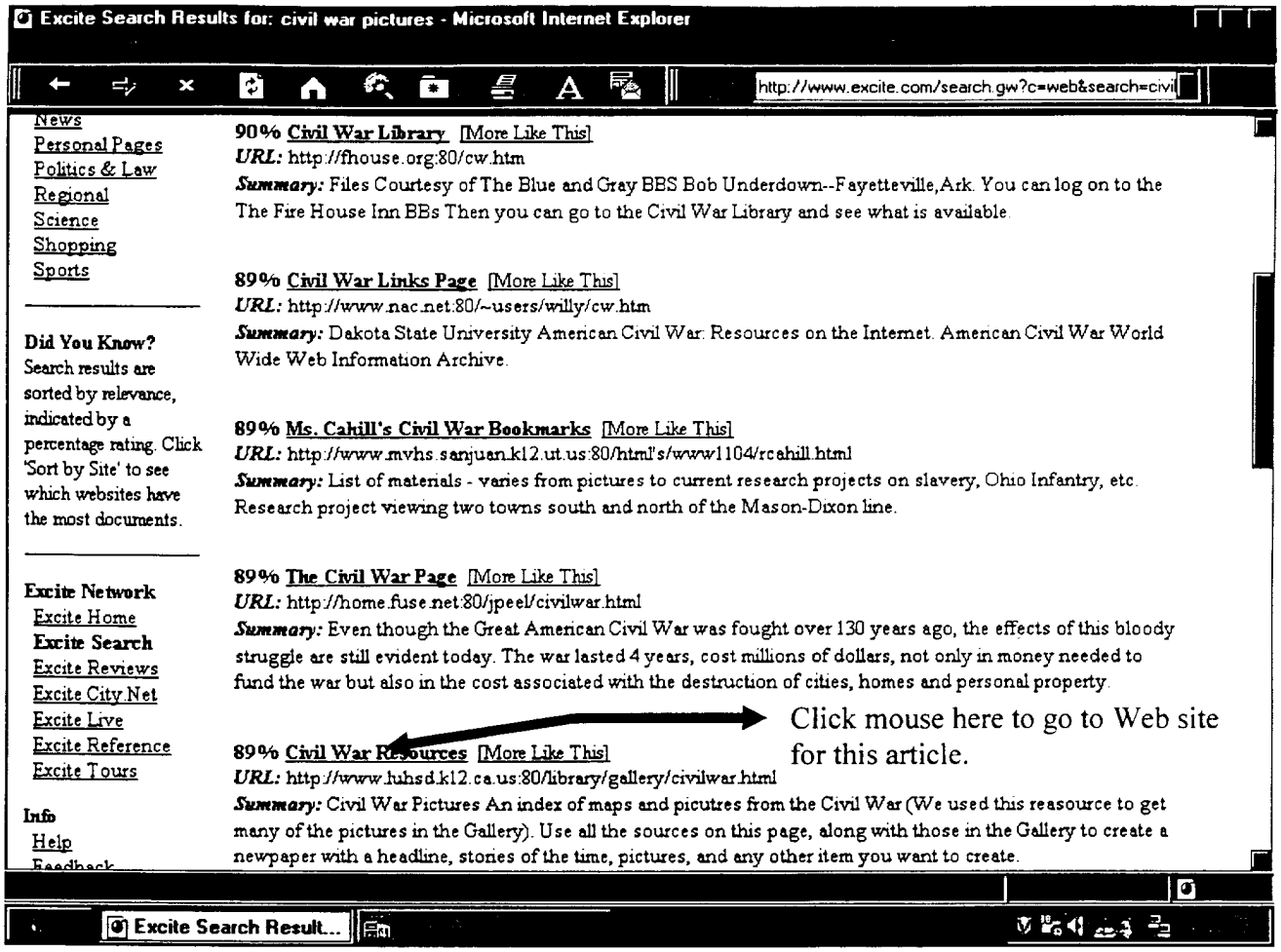


The text has now been pasted into your Word document. You can edit it any way you want, just as you would text you type yourself. You could import the entire document if you wanted too. You could also select additional paragraphs and import them separately. Always scan through the entire document before importing anything. You might find something at the very end like a summary of the article that better fits your needs. Don't waste time importing something, only later to realize that is superseded by another part of the document. Make sure that when you import something that you give credit where credit is due. Footnote all direct imports just as you would any work you typed from a library source. You would footnote this source that same as any newspaper, even though it is from a Web site.

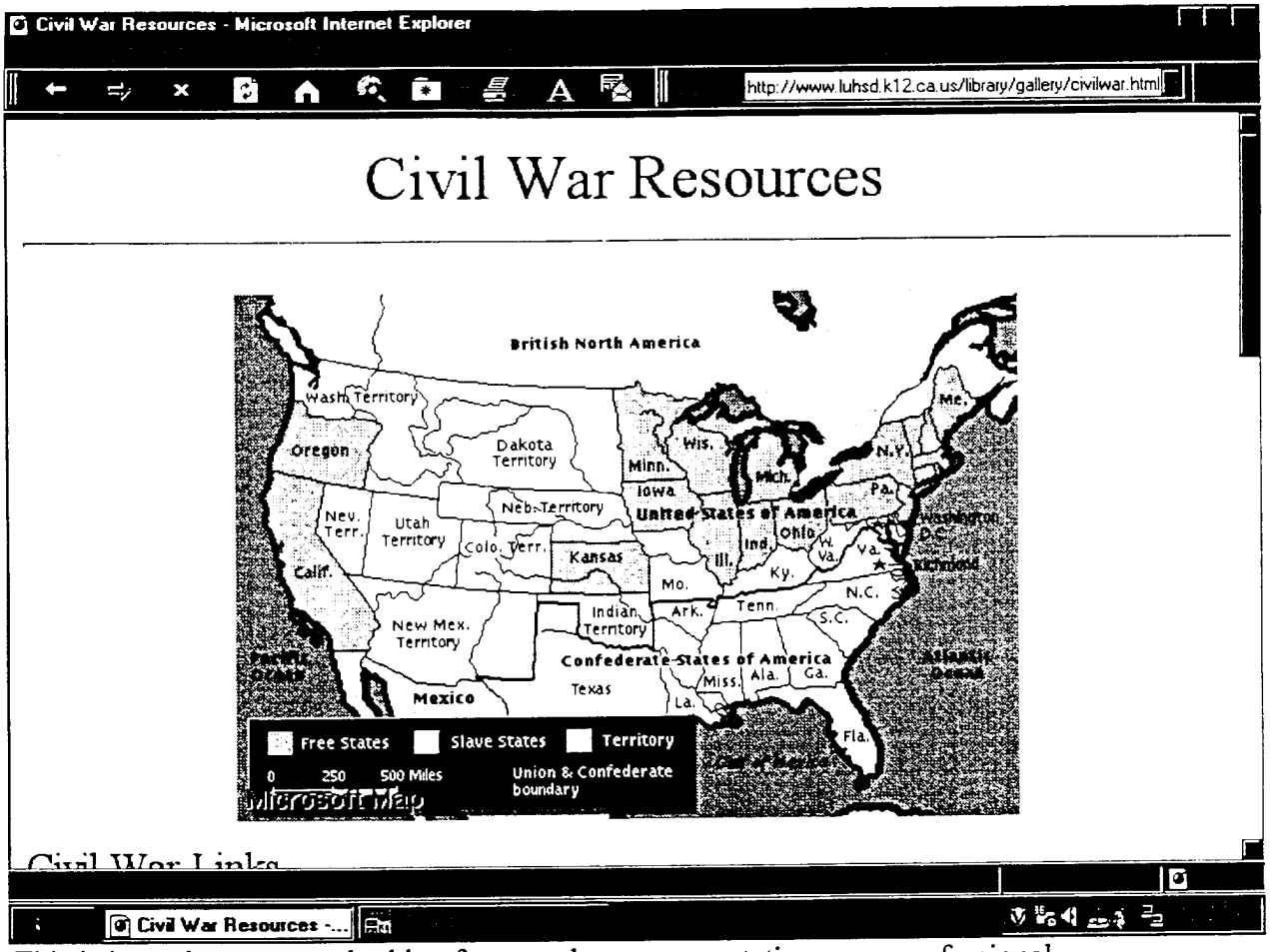
Importing Photo's or Charts

Photos and charts are imported in much the same way as text. The paste part of the operation is the same is the same as pasting text. To copy a photo or chart, right click the mouse on the item. This will open up the menu. Click on copy and you have copied the item into the clipboard and are now ready to insert it into your word processing document or presentation chart. For the practical application of this knowledge, assume we are preparing a class presentation on the American Civil War. We are looking for a good photo or map that will make our presentation look more professional. We have our Power Point program already open and have prepared a few introductory slides. We minimize Power Point, open our Web browser, type in our search criteria "civil war pictures" and click our mouse on the search button.

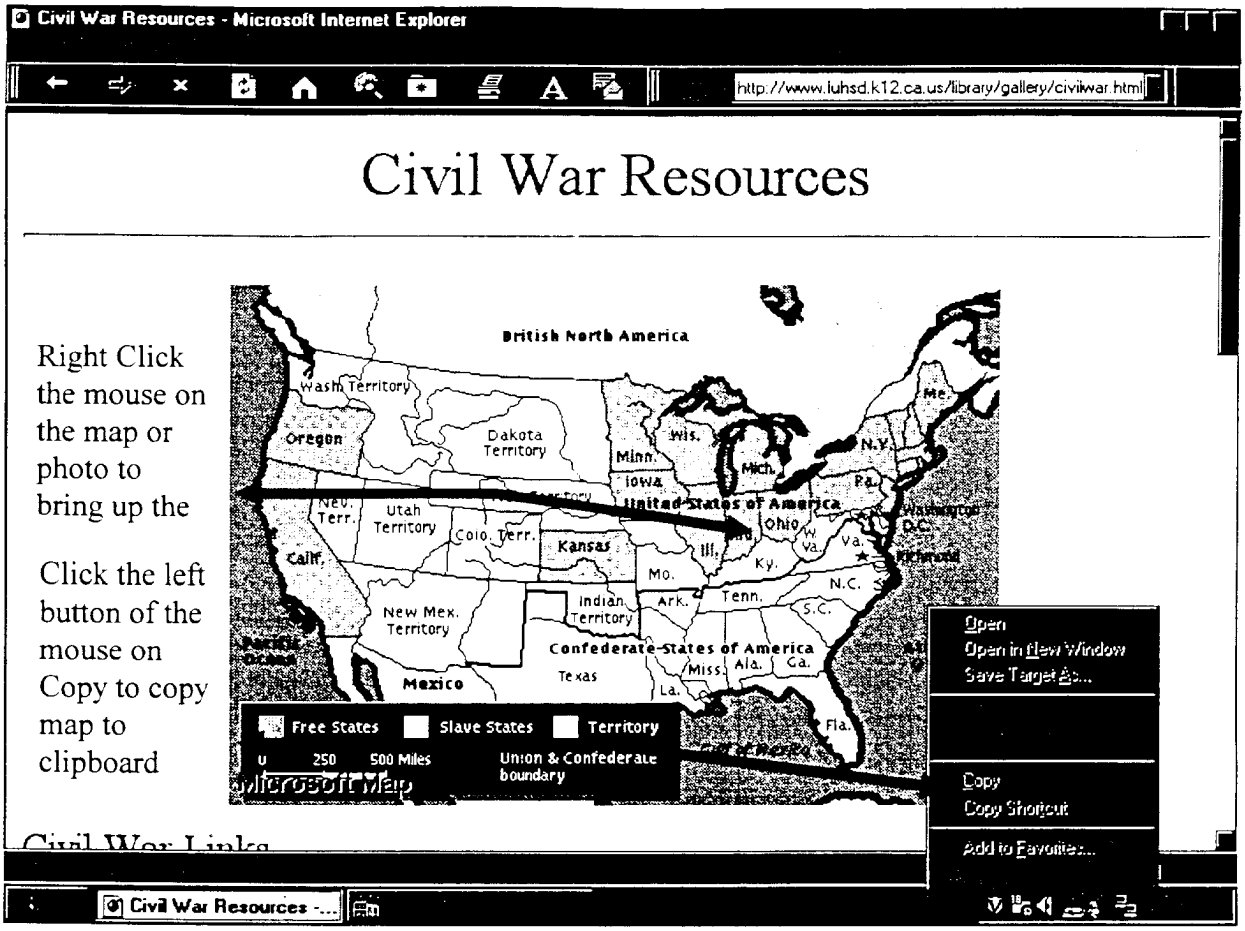




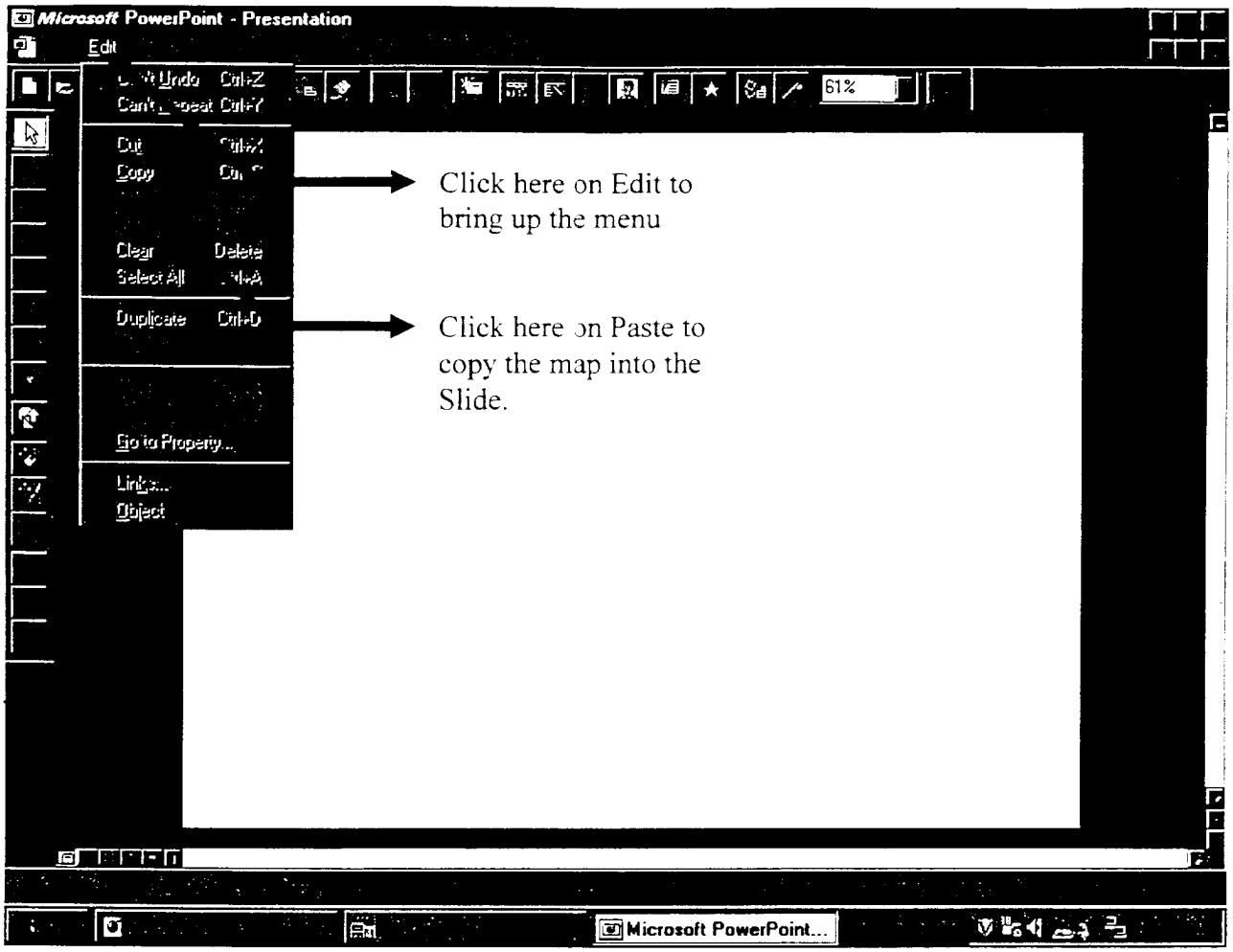
Our search returns some excellent hits. We select one that looks promising, Civil War Resources, and click our mouse button on the blue portion of the title. This will take us to the location of the article or photo. It may take a little time for the Web browser to take us to the site, depending on how busy the Internet may be. The site itself may be busy (too many people plugged in) and we might have to try to connect two or three times before we get through (like getting a busy signal on a phone line).



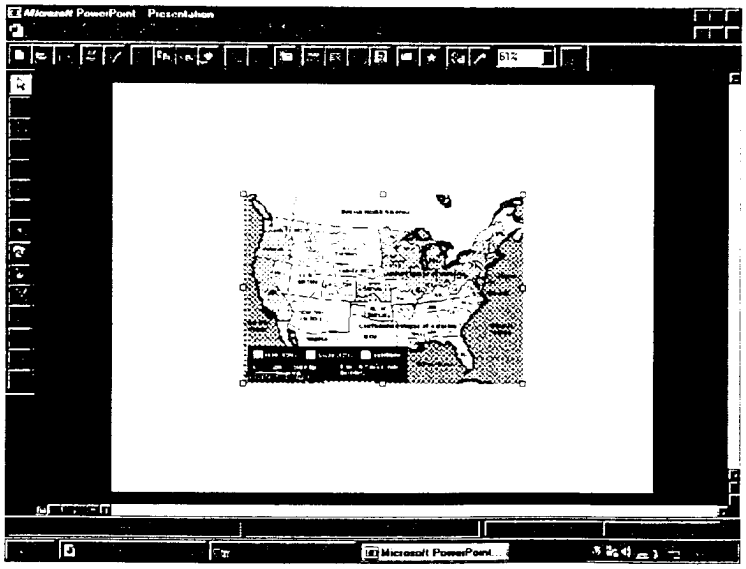
This is just what we were looking for to make our presentation more professional looking. Think of all the time it would take to create this type of map on our own. We decide to copy this map directly into our Power Point presentation. To do this we position our mouse arrow directly on the picture and right button click. This will bring up a menu. From the menu we select "copy" by clicking the left mouse button directly on the word copy. Don't get confused with your mouse buttons. The right button brings up the menu and the left button executes the command from the menu.



You are now ready to insert the map into your Power Point presentation. To switch to Power Point, you could minimize the Web browser and then maximize Power Point. But, remember the trick we learned earlier for importing text. It also works with photos and charts. While holding down the Alt key and depressing the tab key until Power Point appears in the little box in middle of the screen, let go of the Tab and Alt key; you will be switched to Power Point. You can switch back and forth between programs that are open by using this little short cut. When you get Power Point open, make sure it is on a blank slide.



Your screen should look like this with the photo or map ready to resize and move, as you like



Verify Your Sources

Anyone can publish a work on the Internet. If I had the desire, I could convert this document into HTML and put it on a Web site. Some of the information you see on the Web may not be that factual. In fact, it may be totally incorrect. Spot check the information you plan to use from another source. If a magazine article is mentioned or a book quoted, go to the library and verify that they exist. Many times, especially in academic works, the author will show his or her bibliography at the end of the article. Don't take the author's interpretation of a work as final. Go look up their sources and verify their analysis. Some articles may be nothing more than a spoof or the author's attempt a humor. Don't be made to look foolish by expounding on something that a colleague can easily and factually disprove. **TRUST BUT VERIFY**!!

Conclusion

The Internet is an outstanding tool to assist you in any academic endeavor. It opens a window on the world and allows you the ability to gather resources from all over the world, some of which have not been available until recently. Any academician, leader, manager or neophyte seeking the truth who fails to capitalize on this important tool will be left behind. Knowledge is true power and the Internet contains enough knowledge to make us all equally powerful. Who knows, I may have found this entire article somewhere in a far corner of the Web and merely imported it into my word processor.

TRUST BUT VERIFY!!!